



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,420	11/17/2003	Michael D. Halleck		2273

23121 7590 11/30/2006

THE LAW FIRM OF HARRIS & BURDICK
HAROLD BURDICK AND ROBERT HARRIS
6676 GUNPARK DRIVE
SUITE E
BOULDER, CO 80301

EXAMINER

DEODHAR, OMKAR A

ART UNIT	PAPER NUMBER
----------	--------------

3714

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,420

Applicant(s)

HALLECK ET AL.

Examiner

Omkar A. Deodhar

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 9 states an apparatus comprising "at least three light emitting elements." This is considered new matter because the original disclosure described the light emitting elements as a plurality of light emitting elements. The word "plurality" is defined as more than one, and thus cannot be substituted for "at least three."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 and 18-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knecht (U.S. Pub. No. 2001/0031666) in view of Wilson (U.S. 6,139,442).

Knecht discloses an apparatus and method for analyzing a golf swing. In particular two or more rows of lights are used as an extension that is attached to the club shaft or hosel of any golf club via a connector. When a golfer swings an outfitted club, the analyzer provides trails of lights that indicate the swing path of the club and the club angle of the club face at the point in which the golfer impacts the ball. Knecht further discloses other components as well, such as battery power, microprocessors, accelerometers, LCD readout, etc. Knecht additionally discloses:

Regarding Claims 1, 9, 12, 18, 23, 24, and 32:

- first and second spaced display elements positioned so that each appears similarly located relative to an associated golf club head face and with each providing at least an apparently consistent light emanation during a golf stroke (Figures 1-4 and 10 and Paragraphs 9-11, 31, 34, and 41-42); and
- an elongated light emitting display positioned between said first and second spaced display elements (Figures 1-4 and 10 and Paragraphs 9-11, 31, 34, and 41-42).

Regarding Claim 2:

- wherein said elongated light emitting display comprises a plurality of light emitting elements positioned so that each appears substantially equidistant from the associated golf club head face (Figures 1-4 and 10 and Paragraphs 9-11, 31, 34, and 41-42).

Regarding Claim 3:

Art Unit: 3714

- wherein said first and second spaced display elements are operatively associated with said control means (Figures 1-4 and 10 and Paragraphs 9-11, 31, 33-34, 41-42, 45, and 47-49).

Regarding Claim 4:

- wherein said first and second display elements are passive elements (Figures 1-4 and 10 and Paragraphs 9-11, 31, 33-34, 41-42, 45, and 47-49).

Regarding Claim 5:

- mounting means for releasably mounting at least said first and second display elements and said elongated light emitting display at a shaft of the associated golf club (Figures 1-5, 10, and 12A & B, and Paragraphs 50-57).

Regarding Claim 6:

- wherein said mounting means includes a shock absorber at said mounting means positionable adjacent to the shaft (Figures 1-5, 10, and 12A & B, and Paragraphs 50-57).

Regarding Claim 7:

- wherein said control means includes a microprocessor and driver connected with said elongated light emitting display (Figures 1-4 and 10 and Paragraphs 9-11, 31, 33-34, 41-42, 45, and 47-49).

Regarding Claim 13:

- further comprising a velocity switch operatively associated with said controller for sensing use of the golf club and activating said controller in response thereto (Figures 1-4 and 10 and Paragraphs 9-11, 31, 33-34, 41-42, 45, and 47-49).

Art Unit: 3714

Regarding Claims 14, 15, and 30:

- wherein said controller includes a microprocessor, said apparatus further comprising an accelerometer operatively associated with said controller to detect club head acceleration, speed, direction, angle and impact force information and store said information at said microprocessor (Figures 1-4 and 10 and Paragraphs 9-11, 31, 33, 34, 41-42, 45, and 47-49).

Regarding Claim 19:

- wherein said elongated single element light emitting source includes a fiber optic transmitter connected with an elongated fiber optic element (Paragraph 31). Although Knecht discloses a microprocessor for controlling subject golf swing analyzer and providing two different color lights to help distinguish the alignment of the golf club at ball impact, Knecht seems to lack explicitly disclosing:

Regarding Claims 1, 9, 18, 20, 21, 22, 24, 25, and 30:

- control means operatively associated with said elongated light emitting display for activating and deactivating said elongated light emitting display to provide several short intervals of light emission from said elongated light emitting display during the golf stroke.

Regarding Claims 8, 15, and 30:

- further comprising a second set of light emitting elements selectively positioned relative to said plurality of light emitting elements, said control means operatively associated with said second set of light emitting elements for activating and deactivating said second set of light emitting elements to provide several short

intervals of activation of said second set light emitting elements during the golf stroke, said short intervals of activation of said second set of light emitting elements being timewise offset relative to said short intervals of light emission from said elongated light emitting display.

Regarding Claims 10, 27, and 28:

- wherein said selection means and said controller are configured for minimum activated/deactivated interval frequency of about $\frac{1}{2}$. wherein said selection means and said controller are configured for variation of activated/deactivated interval frequency in a range between about $\frac{1}{2}$ to at least about $\frac{1}{35}$.

Regarding Claims 26, 27, 28, and 29:

- said method further comprises the step of selecting period and frequency of said intervals.

Wilson, like Knecht, teaches of a golf swing learning aid that provides instant feedback to a golfer on the characteristics of their swing of a golf club. Wilson and Knecht are analogous art. The device can be integral to a golf club head or mounted in close proximity to the golf club head including a first and second light source (different color LEDs). This device provides feedback in the form of two dashed streaks of light persisting in the golfer's vision providing feedback to the golfer on the direction of the swing, orientation of the club head, and club head speed relative to some pre-set value. Wilson teaches:

Regarding Claims 1, 9, 18, 20, 21, 22, 24, 25, and 30:

- control means operatively associated with said elongated light emitting display for activating and deactivating said elongated light emitting display to provide several short intervals of light emission from said elongated light emitting display during the golf stroke (Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

Regarding Claims 8, 15, and 30:

- further comprising a second set of light emitting elements selectively positioned relative to said plurality of light emitting elements, said control means operatively associated with said second set of light emitting elements for activating and deactivating said second set of light emitting elements to provide several short intervals of activation of said second set light emitting elements during the golf stroke, said short intervals of activation of said second set of light emitting elements being timewise offset relative to said short intervals of light emission from said elongated light emitting display (Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

Regarding Claims 10, 27, and 28:

- wherein said selection means and said controller are configured for minimum

activated/deactivated interval frequency of about $\frac{1}{2}$ (Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

Regarding Claims 11, 27, 28, and 31:

- wherein said selection means and said controller are configured for variation of activated/deactivated interval frequency in a range between about $\frac{1}{2}$ to at least about $\frac{1}{35}$ (Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

Regarding Claims 26, 27, 28, and 29:

- said method further comprises the step of selecting period and frequency of said intervals (Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

It would have been obvious at the time of Applicant's invention to modify Knecht's golf swing analyzer to utilize Wilson's first and second set of lights having a first and second turn on/turn off cycle pattern in order to provide feedback to the golfer on the direction of the swing, orientation of the club head, and club head speed. One would be motivated to do so because this would result in two dashed streaks of light persisting in a golfer's vision to provide instant feedback to the golfer relating to the swing allowing for even the color blind to readily ascertain the results.

Art Unit: 3714

3. Claims 16 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knecht (U.S. Pub. No. 2001/0031666) in view of Wilson (U.S. 6,139,442) and further in view of Campos et al. (U.S. Pub. No. 2004/0243196). Knecht in view of Wilson teaches that as discussed above regarding claims 1-15 and 18-32. Knecht in view of Wilson seems to lack explicitly teaching:

Regarding Claims 16 and 33:

- further comprising a muscle stimulation unit trigger operatively associated with said controller. Campos et al., like Knecht and Wilson, teaches of a golf learning aid and is therefore analogous art. Campos et al. teaches of a developmental instrument that includes hardware and software for stimulating a muscle. In the case of a golf club, the instrument may stimulate a muscle of a user as the golfer practices a swing. Campos et al. additionally teaches :

Regarding Claims 16 and 33:

- further comprising a muscle stimulation unit trigger operatively associated with said controller (Abstract, Paragraphs 23, 100, and 110).

It would have been obvious at the time of Applicant's invention to incorporate the developmental instrument Campos in the combination of Knecht and Wilson. One would be motivated to do so because combining muscle stimulation with the act of practicing the movement of the golf swing has a synergistic effect of training the muscle as it builds strength effectively enhancing the golf aid device obtained in the Knecht and Wilson combination.

Art Unit: 3714

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knecht (U.S. Pub. No. 2001/0031666) in view of Wilson (U.S. 6,139,442) and further in view of McGinty et al. (U.S. Pub. No. 2003/0032494).

Knecht in view of Wilson teaches that as discussed above regarding claims 1-15 and 18-32. Knecht in view of Wilson seems to lack explicitly teaching:

Regarding Claim 17:

- comprising a light intensity sensor operatively associated with said controller for sensing ambient light conditions, said controller configured to adjust light output from said elements responsive thereto.

McGinty et al., like Knecht and Wilson, teaches of a golf club training apparatus and is therefore analogous art. McGinty et al. teaches of a golf club training apparatus having impact sensors and display to show where on the club face the ball was struck for providing immediate feedback by electronic means to the golfer. McGinty et al. teaches:

Regarding Claim 17:

- comprising a light intensity sensor operatively associated with said controller for sensing ambient light conditions, said controller configured to adjust light output from said elements responsive thereto (Paragraph 29).

It would have been obvious at the time of Applicant's invention to incorporate the ambient light intensity sensor of McGinty in the combination of Knecht and Wilson in order to ensure the light intensity of the LED's are sufficient to provide instant feedback

Art Unit: 3714

to the golfer. One would be motivated to do so such that a golfer could practice their swing at any time of the day and still be able to obtain clear and instant feedback.

Response to Amendment

5. The amendments to claims 10, 11, and 31 have overcome the 35 U.S.C. 112 rejections. Thus, the respective rejections have been withdrawn. With respect to claims 10 and 11, the language “activated/deactivated interval frequency” has been amended to read “activated/deactivated interval ratio.” It is the examiner’s position that this amended language does not further clarify the claim, and hence the rejection is maintained. Since claim 31 has not been amended, the respective rejection is maintained.

6. Applicants had amended claims 1, 9, and 24 to clarify the relationship of the various light types to each other. Although not amended, the examiner rejects claims 12, 15, 18 and 25. The examiner’s position for all maintained claim rejections is as follows:

The amendments to claims 1, 9, and 24 do not change the interpretation of the claim language. For example, the language added in claims 1 and 24, “spaced from each other with each appearing to a user to be similarly adjacent,” is no more descriptive than the original claim language, “positioned so that each appears similarly located relative,” and “similarly located relative,” respectively. Similarly, the language added in claim 9, “for most users to be linearly arrayed substantially parallel to” is interpreted the same as in the original claim language, “appear to a user at a position along the associated golf club head face.” Furthermore, with respect to the amendments

Art Unit: 3714

to claim 9 that state the apparatus comprises "at least three light emitting elements," the Knecht reference discloses a golf swing analyzer that comprises two or more lights (Knecht, Paragraph 9). Hence, the device disclosed by Knecht could have three or more light emitting elements as well. Thus, the rejections of claims 1, 9, and 24 as being unpatentable over Knecht in view of Wilson are maintained.

It follows from the maintained rejection of claim 9 that the rejections of dependant claims 12 and 15 are also maintained because these amended claims have removed the word "plurality," where it is now implied, based on amended claim 9, that plurality means at least three light emitting elements, as discussed in the response to amended claim 9, herein above. Amended claim 25 refers to a golf stroke between two positions, as in claim 24. However, as noted above, the amendments to claim 24 are no more descriptive than the original claim language. Thus, the rejections of claim 25 are also maintained.

With respect to claim 18 and the applicant's argument that the references applied are different than this application, the examiner's position is as follows: The applicant fails to provide clarification of the differences between the invention of this Application and the references applied from Knecht and Wilson. The relevant teachings from these references are provided, as follows:

- First and second spaced display elements positioned so that each appears similarly located relative to an associated golf club head face and with each providing at least an apparently consistent light emanation during a golf stroke (Knecht, Figures 1-4 and 10 and Paragraphs 9-11, 31, 34, and 41-42); and

- An elongated light emitting display positioned between said first and second spaced display elements (Knecht, Figures 1-4 and 10 and Paragraphs 9-11, 31, 34, and 41-42).

- Control means operatively associated with said elongated light emitting display for activating and deactivating said elongated light emitting display to provide several short intervals of light emission from said elongated light emitting display during the golf stroke (Wilson, Abstract, Figures 5a-6d, Column 1, lines 43-67, Column 3, lines 5-51, Column 4, line 66-Column 5, line 7, Column 5, line 61-Column 7, line 45, and Claims 1-4, and 20-28).

7. With respect to the applicant's argument that the Knecht patent discloses an embodiment of a golf swing analyzer that includes a device attachable to a golf club shaft having only two light sources arranged so that a line connecting the two appears to a user to be perpendicular to the club head face and that the device is primarily for use without a ball, the examiner's position is as follows:

The orientation, or positioning of light emitting elements on the device is a matter of preference because this arrangement does not provide any substantial advantages to the player, over the device of Knecht. To further elaborate, the device disclosed by Knecht, in the Summary, provides a light emanation during a golf stroke that appears to a user to be consistent. A trail of lights is provided that indicate the swing path of the club and the angle of the clubface at the point in which the golfer wishes to strike a ball. The player using the device disclosed by Knecht, would be able to determine the accuracy of their swing and then make adjustments to their swing, as needed.

Furthermore, one of ordinary skill in the art would recognize that the light emitting elements could instead be positioned parallel to the club head face for better visibility to the player. It should also be noted that although the applicant argues that the device disclosed by Knecht is primarily for use without a ball, Knecht does not specifically limit the device for use only without a ball.

8. With respect to the applicant's argument that the Knecht publication does not include the trace producing lights shown in the first embodiment, but instead teaches an LED array that produces a display of text, numbers and symbols responsive to a practice swing, where the orientation of this display relative to the club head face is not specified, where there are no apparently consistent light emanations during the practice swing and no short intervals of emission during the swing, and finally that the display is not produced during the swing, the examiner's position is as follows: The Knecht publication discloses in paragraph 48, that other virtual displays are within the skill of the ordinary artisan (e.g., displaying the forgoing information individually or in a different combination)." Meaning, that Knecht's disclosure could be extended to cover many forms of light emanations, during or after the swing. Furthermore, because the applicant has not disclosed that his form of light emanations would have any critical outcomes or results over the light emanations discussed throughout the Knecht publication, the rejections are maintained.

9. Regarding the applicant's argument that the Wilson patent teaches a pair of light sources mounted in or on a club head so that a line connecting the two appears to a

user to be perpendicular to the club head face, the examiner's position regarding orientation of elements on the device is as follows:

That the orientation or positioning of the light emitting elements on the device is a matter of preference because this arrangement does not provide any substantial or critical advantages to the player, over the device of Wilson. Wilson, in the Abstract, discloses that the device can be mounted to, or incorporated into the head of the golf club such that the first and second light sources are visible to the golfer when using the golf club, at least at the time when the club head is striking the ball. Thus, when using the device disclosed by Wilson, the player can easily determine the direction of the swing and the orientation of the club head. Hence, the player can modify his swing accordingly.

10. With respect to the applicant's argument that neither of the patents relied upon by the Examiner teach or suggest a golf swing improvement aiding apparatus or method employing the combination of an elongated light emitting display providing short intervals of light emission between a pair of elements each providing an apparently consistent light emanation, the Examiner's position is as follows: The elongated light emitting display positioned between said first and second spaced display elements, referred to in the rejection of claims 1, 9, 12, 18, 23, 24, and 32, above, contains display elements that provide a consistent light emanation. This extends to include short intervals of light emission, as argued by the applicant.

With respect to the applicant's argument regarding the positioning of light emitting elements, the examiner's position, as noted above, is that the applicant does

not provide any critical outcomes resulting from the positioning of light emitting elements as disclosed in the application, when compared to the devices disclosed in Knecht and Wilson. Furthermore, both devices disclosed by Knecht and Wilson contain light emitting elements that are visible to the player and hence can help the player make adjustments to their swing. Thus, Knecht in view of Wilson teaches the applicant's claimed limitations.

11. Regarding the applicant's argument that neither of the applied references teach or suggest such an apparatus including at least three light emitting elements controlled to produce short activated intervals during a golf stroke, with the elements mounted so that they appear to a user to be linearly arrayed substantially parallel to the golf club head face (rather than perpendicular), the examiner's position has been explained in detail in the response to the amendments of claim 9, above, and Knecht in view of Wilson teaches the applicant's claimed limitations.

12. With respect to the applicant's argument that there is no teaching or suggestion in these references of an elongated single element light emitting source mounted to appear to a user to be substantially parallel to the golf club head face, the source providing several short intervals of light emission during a golf stroke as specified in independent claim 18 or this applicant, the examiner's position is as follows: The Knecht publication discloses a golf swing analyzer comprising lights on an extension that is attached to a connector, which is in turn capable of being attached to a golf club shaft, paragraph 9. The golf swing analyzer comprising lights on an extension is interpreted as an elongated light emitting source that can be mounted to a golf club. The parallel,

Art Unit: 3714

perpendicular, or other placement type is a matter of preference and does not provide any critical advantages over the devices disclosed by Knecht and Wilson, as discussed above. The housing that comprises the light emitting sources, (Knecht, Figures 10 & 11), can be considered a single element light emitting source, as a whole. The short intervals of light emission occurring during the golf stroke have been discussed in detail in items 7 and 9 in the response to the applicant's amendments. Hence, Knecht in view of Wilson teaches the applicant's claimed limitations.

13. With respect to the applicant's arguments that several of the dependant claims have no corresponding teaching in the applied references, it is the examiner's position that all rejected claims have either been taught by the references, or were obvious to one of ordinary skill in the art, as discussed above in the response to the amendments and in the respective 35 U.S.C. 103 rejections, also discussed herein above.

14. ***Conclusion***

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


Art Unit: 3714

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omkar A. Deodhar whose telephone number is 571-272-1647. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


XUAN M. THAI
SUPERVISORY PATENT EXAMINER
TC3700